



2017 Spring Electrofishing (SEII) Summary Report

Weyauwega Millpond (WBIC 257700)

Waupaca County

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Introduction and Survey Objectives

In 2017, the Department of Natural Resources conducted a one night electrofishing survey of Weyauwega Millpond in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey were to characterize species composition, relative abundance, and size structure. The following report is a brief summary of that survey including the general status of the fish populations and future management options for Weyauwega Millpond.

Acres: 274.2

Lake Type: Impoundment

Regulations: Statewide Default Regulations

Shoreline Miles: 4.48

Public Access: Two Public Boat Launches

Maximum Depth (feet): 11

WISCONSIN DNR CONTACT INFO.

Jason Breeggemann—Fisheries Biologist

Elliot Hoffman - Fisheries Technician

Wisconsin Dept. of Natural Resources

647 Lakeland Rd.

Shawano, WI 54166

Jason Breeggemann phone and email: 715-526

-4227; jason.breeggemann@wisconsin.gov

Elliot Hoffman phone and email: 715-526-

4231; elliot.hoffman@wisconsin.gov

Survey Information

Site location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Weyauwega Millpond	5/24/2017	58	All	1.5	3	Boomshocker	2

Fish Metric Descriptions PSD, CPUE, and LFD

Proportional Stock Density (PSD) is an index used to describe size structure of fish populations. It is calculated by dividing the number of quality size fish by the number of stock size fish for a given species. PSD values between 40 - 60 generally describe a balanced fish population.

Catch per unit effort (CPUE) is an index used to measure fish population relative abundance, which simply refers to the number of fish captured per unit of distance or time. For electrofishing surveys, we typically quantify CPUE by the number and size of fish per mile of shoreline. CPUE indexes are compared to statewide data by percentiles. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

Length frequency distribution (LFD) is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.

Survey Method

- Weyauwega Millpond was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period was to count and measure adult bass and panfish. Other gamefish may be sampled but are considered by-catch as part of this survey.
- One and a half miles of shoreline was sampled with a boomshocker. All fish captured were identified to species and gamefish and panfish were measured for length.
- Fish metrics used to describe fish populations include proportional stock density, catch per unit effort, and length frequency distributions.



Size Structure Metrics

Species	Total	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	Percentile Rank	Size Rating
BLUEGILL	68	6.0	2.2 - 8.8	3.0 and 6.0	67	39	58	84	High
PUMPKINSEED	30	5.6	3.5 - 6.8	3.0 and 6.0	30	8	27	54	Moderate
LARGEMOUTH BASS	53	11.9	4.8 - 19.0	8.0 and 12.0	40	35	88	93	High
NORTHERN PIKE	10	16.9	7.2 - 26.0	14.0 and 21.0	7	2	29	54	Moderate

Abundance Metrics

Species	CPUE Total (number per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
BLUEGILL	68.0	44	Moderate	≥ 7.0 inches	17	75	High
PUMPKINSEED	30.0	86	High	≥ 7.0 inches	0	0	Low
LARGEMOUTH BASS	35.3	77	Moderate - High	≥ 14.0 inches	8	81	High
NORTHERN PIKE	6.7	91	High	≥ 26.0 inches	0	0	Low



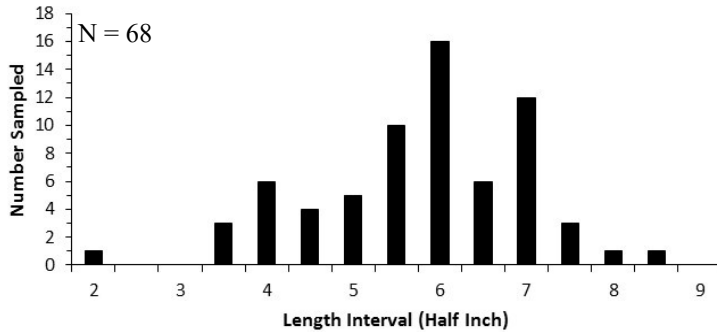
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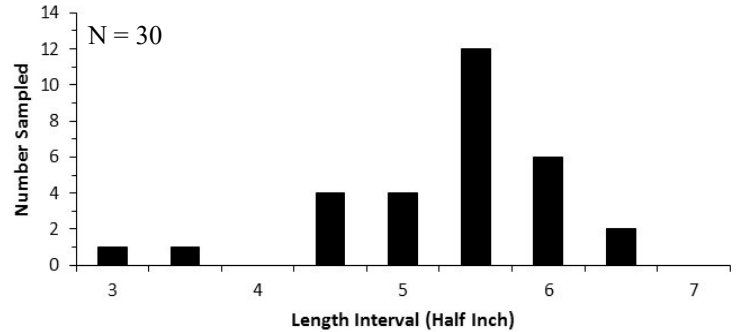
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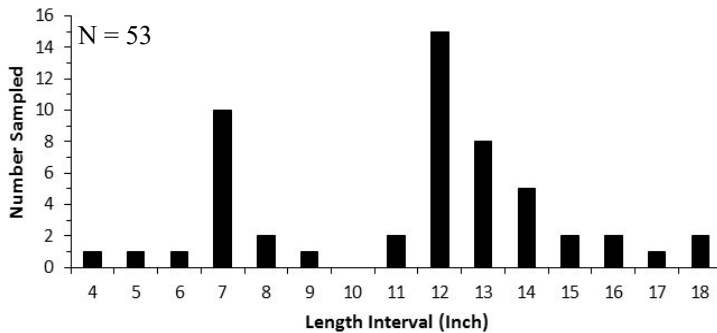
Bluegill Length Frequency



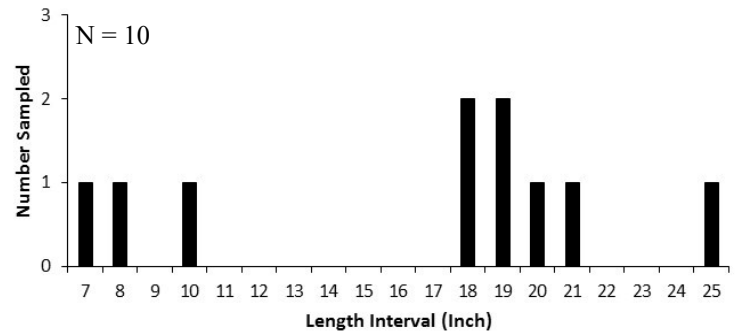
Pumpkinseed Length Frequency



Largemouth Bass Length Frequency



Northern Pike Length Frequency



Summary

- A total of 268 fish from 13 species were collected during our survey. The most frequently encountered species were black bullhead (70), bluegill (68), largemouth bass (53), and pumpkinseed (30).
- Other fish species sampled in lower abundance include white sucker (19), northern pike (10), yellow bullhead (8), smallmouth bass (3), black crappie (2), shorthead redhorse (2), common shiner (1), greater redhorse (1), and rock bass (1).
- All species captured were native species.
- Largemouth bass were the dominant gamefish captured in our survey. Size structure and abundance metrics were at moderate to high levels. 23% of the largemouth bass captured were >14 inches, or legal size.
- Three smallmouth bass were captured. It is likely this species uses Weyauwega Millpond during the coolwater time periods and moves upstream into the Waupaca River during the summer months in search of cooler water.
- Ten northern pike were captured during electrofishing, resulting in a high density when compared to other electrofishing surveys throughout the state. However, fyke netting would be a more appropriate sampling gear to assess the northern pike population.
- Bluegill and pumpkinseed were the dominant panfish species sampled. Bluegill abundances were found at moderate levels whereas size structure was found at high levels. Pumpkinseed were found at high densities with few individuals larger than six inches captured. 57% of the bluegill captured were >6 inches and 25% were >7 inches indicating plenty of harvestable size bluegills in the population.
- Only two black crappie and no yellow perch were sampled.

Management Options

This survey was primarily intended to assess largemouth bass and panfish populations. Other species are captured but different survey techniques are typically used to better assess their population metrics. Therefore, management recommendations are focused on bass and panfish.

Largemouth Bass

- Largemouth bass were found at optimal levels and have recovered nicely following the drawdown. Densities were moderate-high whereas size structure was found at high levels. Abundant forage including bullheads, sucker species, and bluegills likely fueled fast growth rates following the drawdown. Smaller largemouth bass that should grow to sizes desired by anglers in the next couple of years were also captured. No management action recommended at this time.

Panfish

- Bluegill have also recovered nicely, showing a balanced population with harvestable sized individuals as well as smaller individuals that will grow to harvestable sizes in the next couple of years. Predator densities should be maintained at current levels to ensure bluegill do not become overpopulated and growth slows.
- Only two black crappie and no yellow perch were sampled. Local anglers have expressed interest in having these fisheries. If results from sampling in 2018 show evidence that these populations have still not recovered, additional stocking should be considered for these two species to try to create self-sustaining high, quality fisheries.

Other Management Objectives

- Weyauwega Millpond is on the rotation list for a comprehensive survey in 2018. This will include a fyke netting survey as well as spring electrofishing survey. The fyke netting survey will provide additional information regarding the recovery of the northern pike population following the drawdown.
- Continue to work with WDNR staff and local lake management organizations to manage invasive aquatic plants. High densities of invasive plants often inhibit the ability of predators to effectively forage resulting in slow growing predator populations. Additionally prey fish (e.g., bluegill) populations can become overabundant and slow growing when predators cannot effectively forage on them.